

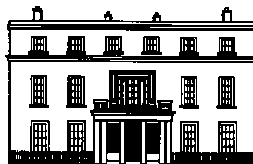
An Roinn Oideachais agus Scileanna

Department of Education and Skills

**Subject Inspection of Science and Physics
REPORT**

**St Mary's Academy CBS
Station Road, Carlow
Roll number: 61120E**

Date of inspection: 16 May 2012



**A N R O I N N | D E P A R T M E N T O F
O I D E A C H A I S | E D U C A T I O N
A G U S S C I L E A N N A | A N D S K I L L S**

REPORT
ON
THE QUALITY OF LEARNING AND TEACHING IN SCIENCE AND PHYSICS

INFORMATION ON THE INSPECTION

Date(s) of inspection	16 May 2012
Inspection activities undertaken <ul style="list-style-type: none">• Review of relevant documents• Discussion with principal and teachers• Interaction with students	<ul style="list-style-type: none">• Observation of teaching and learning during five class periods• Examination of students' work• Feedback to principal, deputy principal and teachers

MAIN FINDINGS

- All lessons were well structured, learning objectives were shared with students in the majority of lessons and there was very good continuity with prior learning.
- Revision strategies in preparation for forthcoming examinations were well planned and delivered.
- Teaching methods, including the use of information and communication technology (ICT) were effective in the consolidation of learning and in supporting the school's literacy and numeracy strategies.
- The atmosphere for learning was very good in all lessons and teacher expertise and commitment combined with student effort and motivation helped ensure that the quality of learning was high.
- Formative assessment had a positive impact on student learning although some aspects of assessment require further development.
- The commitment of teachers and school management to the development of science education in the school is praiseworthy.

MAIN RECOMMENDATIONS

- Assessment for learning (AfL) strategies should be developed to include the increased use of formative written feedback to students and the allocation of a portion of the marks for school examinations to practical assessment and accurate student practical records.
 - Science and physics plans should be developed to include short, medium and long-term targets for the development of these subjects.
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INTRODUCTION

St Mary's Academy CBS, Carlow serves an urban and rural catchment area and has a current enrolment of 547 boys. The school offers a range of programmes including the Leaving Certificate Vocational Programme (LCVP) and an optional Transition Year (TY) programme. In addition to Science at junior cycle, the school offers a wide range of science subjects for Leaving Certificate.

TEACHING AND LEARNING

- Lessons were well structured and learning objectives were shared with students at the outset of the majority of lessons. This good practice should be extended. Many lessons were appropriately summarised which beneficially consolidated student learning.
- There was very good continuity with prior learning in lessons observed. Revision strategies in preparation for forthcoming examinations were very good. Students received valuable advice regarding the structure and marking of examinations. Focused class work and homework included appropriate questions from State examination papers.
- Revision of key mandatory investigations formed part of a physics lesson visited. Students developed important skills in interpretation of data and graph drawing. Very good questioning strategies supported students in their understanding of key concepts and ideas. For example, during a science lesson on the human senses, good questioning strategies aided students' understanding of key concepts.
- Affirmation of student effort was a positive feature of many lessons. Teachers used differentiation appropriately in most lessons and gave students individual support as needed. Further strategies to support and include students of all abilities in classroom activities should be planned and delivered. This is particularly important in mixed-ability settings. Lessons were particularly effective when teachers circulated the classroom checking students' work while providing appropriate developmental feedback to students.
- The positive classroom atmosphere and rapport created a supportive learning environment. Overall, very good efforts were made to get students involved in lessons. Classroom activities were well integrated into lessons.
- Students were encouraged to think clearly, developed key skills and were motivated, engaged and appropriately challenged by classroom activities. For example, during a lesson observed, students developed key problem-solving and analytical skills and were encouraged to think clearly about units, precautions and experimental error.
- Teaching methods, including the use of the board and ICT, were effective in the consolidation of learning and in supporting the school's literacy and numeracy strategies. ICT was particularly well used as a means of introducing the applications of Science to the classroom. The visualizer was particularly well utilised as a learning tool, during demonstrations, as an aid to correction of homework and in the development of classroom learning. The further use of appropriate animations and applets to support learning is recommended.
- Formative assessment had a beneficial impact on student learning, particularly through positive comments and annotation of students' copybooks. This practice should be extended. Modes of assessment should be developed to include the increased use of formative written feedback to students.
- There was effective use of appropriate and challenging questioning in all lessons observed. Students responded confidently to questions on their work. State examination results are analysed and academic student achievement is evaluated and monitored. This is very good practice.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Science is currently provided as a core subject in first year after which students have the option of choosing it for the Junior Certificate. It is praiseworthy that school management has decided to offer Science as a core Junior Certificate subject from the next academic year. The commitment of teachers and school management to the development of science education in the school is praiseworthy.
- Physics, Chemistry, Biology and Agricultural Science are offered at senior cycle and Science forms a core part of the optional TY programme. The level of support provided to students in making an informed choice of subjects for Leaving Certificate is very good.
- The number of students who have chosen Chemistry for the next academic year is deemed not sufficiently high for school management to offer this subject independently in the next academic year. The school, however, will offer Chemistry by operating a collaborative networking arrangement with a neighbouring school. This is praiseworthy.
- Time allocation to the range of science subjects is in the main appropriate. However, first-year science requires additional time allocation and the investigative nature of Science demands that one double period per week should be timetabled in a laboratory.
- The level of support for students with special educational needs is very good. Teachers are aware of students' individual needs and students are well supported in this regard.
- The school's two modern laboratories and preparation areas are well organised. Students' project work is on display and equipment and chemicals are appropriately stored. The addition of a third laboratory in the next academic year will ensure adequate access to laboratories. This demonstrates good forward planning by school management.
- The profile of Science is promoted in many ways including Science Week activities, cross-curricular collaboration and participation in the Sci-Fest and BT Young Scientist competition. The commitment of teachers and the recent successes of students in this regard are very praiseworthy.
- Relevant continuing professional development (CPD) courses are supported by senior management for all science teachers.

PLANNING AND PREPARATION

- There was very effective individual teacher planning and resource planning in evidence in advance of lessons observed.
- Collaborate plans and schemes of work are available for Science and Physics. When these plans are reviewed, identified areas for development should include short, medium and long-term targets for subject development. Schemes of work are well developed overall. However, on review, consideration should be given to including learning objectives and to linking resources, assessment strategies and methodologies to each section of the course. The focus of TY planning is very good. Future plans should place skills development at the core of TY planning and self evaluation should ensure that the plan is dynamic. The TY scheme of work should be developed as outlined above.
- Science department planning meetings are convened regularly and minutes reveal the wide range of relevant topics discussed. Co-ordination of Science in the school is effective.

The draft findings and recommendations arising out of this evaluation were discussed with the principal, deputy principal and subject teachers at the conclusion of the evaluation. The board of management was given an opportunity to comment in writing on the findings and recommendations of the report; a response was not received from the board.

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